

RESPONSE TO COMMENTS
DRAFT FINAL ADDENDUM TO PARCELS B AND G RADIOLOGICAL
REMOVAL ACTION COMPLETION REPORT
HUNTERS POINT NAVAL SHIPYARD
SAN FRANCISCO, CALIFORNIA

Comments from Sheetal Singh, PhD
Senior Health Physicist, Environmental Management Branch
California Department of Public Health
Comments Dated: February 11, 2016

The Environmental Management Branch (EMB) of the California Department of Public Health (CDPH) appreciates the opportunity to review the submitted document, "Building 130 and 351A Data Packages Summary, Former Hunters Point Naval Shipyard, San Francisco. Dated January 25, 2016

GENERAL COMMENTS

Comment 1.

It is CDPH's understanding that the Navy's plan was to re-perform alpha scans for four Class 1 Survey Units in Building 130 and Survey Unit 43 in Building 351A per the procedure outlined in document "Process for additional Alpha Scan Speed Confirmation Rework at the Former Hunters Point Shipyard" dated November 23, 2015. After reading the sections "Background/MARSSIM Survey Process" and "Building 130 and 351A Data Packages Summary process", it is unclear exactly how the Navy collected the measurements? Did the Navy follow the MARSSIM survey process by first performing scans, second collecting static measurements and third gathering swipes?

Response 1.

The section titled "Background/MARSSIM Survey Process" is a brief overview of the MARSSIM process and the historical surveys that were performed at Hunters Point Shipyard. During the historical surveys conducted at Hunters Point the full MARSSIM survey process was carried out. However, due to the self-reported variance from survey protocols, specifically scan speed, the RACR Addendum was developed to address this scan speed variance. This rescanning process included rescanning the survey units, then performing investigative biased statics and smears based on the scan results. The resurveys conducted in Buildings 146, 439, 130 and 351A were all completed in accordance with the individual white paper variance documents that can be found in Appendix E to the RACR Addendum. These white paper variances were reviewed by CDPH prior to beginning the building surveys. Historical systematic surveys were never in question and were not re-performed. This is in accordance with the white paper variance documents that can be found in Appendix E to the RACR Addendum.

Comment 2.

For complete description of the Building 130 and 351A Data Packages Summary, the Navy should include a MARSSIM related survey design criteria including a brief description on where and when reference area data was collected, the number of background measurements collected, daily quality control measurements, instrumentation information including efficiency calculations, procedures used for the static and scan measurements.

Response 2.

The daily quality control measurements are provided in Appendix F. A table listing the locations of the reference areas can be found in Appendix F. The procedures used to perform the surveys can be found in the white paper variance documents that can be found in Appendix E to the RACR Addendum and the original Task Specific Procedures and the Final Status Survey Reports which are attached to the Parcels B and G Radiological Removal Action Completion Report.

SPECIFIC COMMENTS

Comment 1.

In Section, "Background/MARSSIM Survey Process", 1st paragraph states, the process includes the collection of static measurements in the systematic triangular grid pattern with a random starting point across a survey to identify the actual total surface activity at those points". According to the Building 130 and 351A Survey Process Sections the static measurements were collected for scan locations where the Navy identified as needing further investigation. Did the Navy collect both static measurements with a random starting point across the survey unit and in addition collected biased static measurements?

Response 1.

Systematic surveys were collected during the historical surveys performed at Hunters Point in these buildings. Only biased static measurements were collected during this rescanning effort in accordance with the agreed upon methods described in the white paper variance documents that can be found in Appendix E to the RACR Addendum. Please see the response to General comment 1.

Comment 2.

In Section, "Background/MARSSIM Survey Process", 2nd paragraph states, "During the process of surveying the buildings in Parcel B and G, if radiological contamination was identified above the release criteria, remediation was performed, and the survey process described above was performed in an iterative manner until the data demonstrated that no elevated surface contaminations remained". From this statement, it appears the Navy had to remediate, if this statement is incorrect, the Navy should rewrite this paragraph to summarize that the Navy was not required to remediate.

Response 2.

Please see the response to General Comment 1. This is referring to the historical surveys performed at Hunters Point in which there were some remediations performed. No remediation was required during the recent rescanning evaluations.

Comment 3.

In Section, "Background/MARSSIM Survey Process", 4th paragraph discusses the "Tetra Tech EC TtEC self-reported variance", in order to identify the variance the title and date of variance should be included.

Response 3.

The variance being referenced is the scan speed issue with the historical surveys for which the RACR Addendum was developed to address. Please see response to specific comment 4 from comments dated December 19, 2014 from Sheetal Singh, PhD, Senior Health Physicist, Environmental Management Branch of the California Department of Public Health.

Comment 4.

In section "Background/MARSSIM Survey Process", include information on how the Navy will investigate if the scan process identifies radiological contamination above the release criteria and the static count is above the release criteria?

Response 4.

Steps to address confirmed contamination greater than the release criteria can be found in the white paper variance documents that can be found in Appendix E to the RACR Addendum and its referenced guidance documents. Note that no contamination greater than any release criteria was encountered during the rescan process including the biased investigative statics.

Comment 5.

In section, "Building 130 and 351A, "Survey Process", 5th paragraph, include information on how the biased static and swipe locations within one single grid area were determined?

Response 5.

Please see response to specific comment 7 from comments dated October 12, 2015 from Sheetal Singh, PhD, Senior Health Physicist, Environmental Management Branch of the California Department of Public Health.

Comment 6.

In Section, "Survey Results", Based on the explanation EMB cannot conclude the scans meet release criteria. For example, for the Building 130 consisted of four Class 1 SUs, based on results of the scans, 520 locations were identified for further investigation. Please explain the investigations that took place to verify that the 520 elevated locations were not contaminated.

Response 6.

Note these are not elevated locations. They are locations identified for further investigation. Each of the 520 investigation locations were further investigated with static alpha/beta measurements and swipes in accordance with the agreed upon processes described in the white paper variance documents which can be found in Appendix E of the RACR Addendum. None of these locations contained activity greater than any release criterion. All of the investigative static results for each survey unit are provided in the survey unit data package for each survey unit and can be found in Appendix F of the RACR Addendum.

Comment 7.

All reference documents associated with scanning process for Buildings 130 and 351A should be listed in the back of this document.

Response 7.

This document is a short summary of a portion of the data provided in Appendix F of the RACR Addendum. The processes performed and pertinent references to documentation for Building 130 and 351A are covered in the RACR Addendum and white paper work variances which can be found in Appendix E of the RACR Addendum.

Comment 8.

Page 13 and 14 in section, "Alpha/Beta Instrument and Reference Area Background Report", lists the Site area as 130 Survey Unit 11, Class 1 ", did the Navy also collect the background data in Site 130 Survey Unit 11? If not include the location where the reference background was collected.

Response 8.

The locations for each of the meters used can be found in Appendix F as can the Background reference survey data at the end of each survey data package for each scan survey. For both Buildings 130 and 351A, Building 400 was used as the background reference area because it was previously identified and used during the prior Final Status Surveys.

Comment 9.

Page 1 of 8, "Swipe Data and Analysis" section, shows two different count times for samples as (3 min) and count time background as (10 min). Why is the sample and background count times different?

Response 9.

By counting the background for a longer period of time the uncertainty with the background is reduced therefore resulting in a lower Minimum Detectable Concentration for a given sample count time. This is a health physics and counting laboratory best practice.

Comment 10.

Page 61 and 62, "Alpha/Beta Instrument and Reference Area Background Report", Site Area 130 Survey Unit 11 Class 1, includes static reference background data? Where is the reference area scan data?

Response 10.

Background surveys for scanning instruments are collected by performing static measurements. This data is the reference area background for the scan surveys. Reference area data for scanning is not used for alpha scans as the alpha process does not account for background when observing 1 or 2

counts during the observation window. The reference area average beta result is used to subtract from the individual counts of the survey unit as part of the conversion of counts per minute to net disintegrations per minute. There is less variability in the results of a static count. Therefore 20 static counts are collected with the scanning instrumentation and averaged. This process insures a more certain background results.

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Comments from US EPA

Comments Dated: December 23, 2014

Thank you for providing for review *Addendum to Parcels B and G Radiological Removal Action Completion Reports* (DCN: RMAC-0809-0002-0012.A1) dated November 2014. The report was prepared for the Navy Base Realignment and Closure Program Management Office West by TetraTech EC, Inc. of San Diego, and references Documents ECSD-3211-0018-0179 and ECSD-3211-0018-0182.

Summary of the Navy's report: The document addresses the adequacy of the scan rates that were used in scan surveys. Scan surveys were one of three survey methods that were used to detect and characterize remaining radioactive contamination on Parcels B and G. The purpose of the document is to provide evidence that demonstrates that the Remedial Action Objective (RAO) has been satisfied, in anticipation of a Final Status Survey (FSS). The scan surveys were used to demonstrate that the surface contamination release criterion for ^{226}Ra of 100 dpm/100 cm² has been satisfied. The report concludes with a recommendation that the previously submitted data remains acceptable, even though the scan rate during the survey was higher than previously reported, and that no further action is needed to supplement the information that was reported in the past.

EPA Comments:

The Navy has previously found that an alpha scan rate of 1.37 cm/sec can ensure that the survey method's detection limit is no higher than 100 dpm/100 cm² at the 90% confidence level. However, during the surface scans for alpha contamination at Parcels B and G, the scan rate in some cases was as high as 9.5 cm/sec and therefore the measurement sensitivity was called into question. The Navy's statements in many previous Final Status Survey Reports that its contractor used a scan speed of 1.37 cm/sec when actual scan speeds varied is misleading and inaccurate. This practice is not acceptable. Please commit to accurate reporting of average scan rate for all work reported in the future.

That being said, the report provides multiple lines of evidence to attempt to demonstrate that even though actual average scan speeds were sometimes higher than originally reported, the cleanup may still meet the EPA risk-based requirements that show the cleanup protects public health and the environment.

EPA understands that the Navy will revise the November 2014 version of this document to address earlier comments made by the California Department of Public Health to provide more complete and precise information. EPA looks forward to reviewing the forthcoming revised version of the document to evaluate whether or not the cleanups documented in previously submitted Final Status Survey Reports did indeed meet EPA criteria for protecting public health and the environment.

Response:

The Navy continues to be committed to accurately reporting any and all activities (including scan rates) completed on our sites. This commitment led to Navy quality control discovering the inaccurate reporting and indicates that oversight is being performed at a high level. Regardless, to accelerate identification of problems and potentially prevent them before they happen in the future, the Navy hired a third-party firm to provide increased fieldwork oversight and review procedures for all radiological work conducted at Hunters Point.